MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Bladder Neck Contracture.—The symptoms commonly associated with prostatic hypertrophy, namely, difficult urination, slow stream, frequency, urgency, and dysuria, may occur when the size of the prostate is normal, or even smaller than normal. This phenomenon of "prostatism sans prostate" is due to a fibrous contracture of the bladder neck, affecting mostly its posterior portion, which is elevated above the trigone and forms a dam or "median bar," which obstructs the outflow of urine.

The average age of patients with this condition is less than that of those with adenomatous prostatic hypertrophy. In fact it may be present at birth, and the most common age for its occurrence is from thirty-five to fifty-five. Long continued chronic infection of the prostate or bladder predisposes to bladder neck contracture. Its occurrence is not uncommon, being the cause of the symptoms in 15 per cent of cases of prostatism.

When a patient complains of the symptoms of bladder neck obstruction, and the prostate is normal by rectal palpation, a bladder neck contracture is suspected. A positive diagnosis, however, can be made only by the use of the cystoscope. With this instrument it is found that the bladder neck is more rigid than normal; it is thickened when palpated between the cystoscope and the examining finger in the rectum; and its posterior portion is seen to be elevated above the trigone, forming a bar at the bladder neck. A careful examination is necessary to differentiate it from the neurogenic bladder, from middle lobe prostatic hypertrophy, and from prostatitis without bladder neck contracture.

If a true bladder neck contracture or median bar is present, palliative treatment such as bladder irrigations, sounds, and prostatic massage will sometimes give some temporary relief, but this treatment is usually unsatisfactory and will never cure the condition. It is necessary to eliminate the obstruction at the bladder neck by excising or punching out the median bar. This may be done satisfactorily in most cases through the urethra. There are several types of instruments designed for this purpose, the most important ones of which are the Collings electrome, and the Young punch with its numerous improvements. The utmost familiarity with the use of cystoscopes is an essential prerequisite to the use of these instruments, but when they are used skillfully on patients who have been correctly diagnosed, the results are satisfactory.

It may therefore be stated that bladder neck contracture or median bar causes symptoms similar to those of prostatic hypertrophy, but usually it occurs earlier and is more often preceded by a chronic infection in the prostate or bladder; that the condition is diagnosed with the aid of the cystoscope; and that most patients can be successfully treated by excising or punching the bladder neck posteriorly with an instrument used through the urethra.

ROGER W. BARNES, Los Angeles.

Transitional Forms of the Spirocheta Pallida.—Many investigators have been intrigued with the idea that the typical classical spirocheta pallida is but one stage in the cycle of development of the causative organism of syphilis. There are clinical problems in syphilis which are difficult of explanation if we admit only the existence of the full-grown spirochete but which would be more understandable if the existence of smaller types of the organism could be demonstrated. For example, take the theory of conceptional transmission of syphilis. Some authorities have claimed to have observed syphilitic children born of nonsyphilitic mothers. Such an occurrence could be explained only by the spirochete being carried into the ovum in the head of the spermatozoa. Inasmuch as the mature form of the spirochete is larger than the spermatazoa this would seem impossible. If an ultramicroscopic or a finely granular stage of the spirochete could be proved, the possibility of the paternal transmission of syphilis would seem to be established. Saleeby and Greenbaum [1] were unable to find any spirocheta pallida in human tissue emulsions which produced syphilis in inoculated animals. At times, the spirocheta pallida cannot be demonstrated in the brains of known paretics.

All of the above mentioned problems could be easily solved if we could accept the idea of there being smaller forms, granular forms or ultramicroscopic forms of the spirochete. McDonagh,[2] Manouelian,[3] and Levaditi [4] have described various granular forms and life cycles of this organism.

Some recent work by Warthin and his coworkers [5, 6] would seem to furnish almost indis-

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1 Saleeby, E., and Greenbaum, S. S.: Comparative Biologic and Histologic Study of Lymph Glands From Syphilitic Patients. J. A. M. A., Vol. 96, No. 2, page 98, January 10, 1931.

2 McDonagh, J. E. R.: The Biology and Treatment of Venereal Diseases. Lea and Febiger, Philadelphia and New York, 1916.

3 Manouelian, Y.: Compt. rend. de Soc. de Biol., 104:249, 1930.

4 Levaditi, C.: Ibid, 104:477, 1930.

5 Warthin, A. S., and Olsen, R. E.: The Granular Transformation of Spirocheta Pallida in Aortic Focal Lesions. Am. J. Syph., Vol. 14, No. 4, page 433, October 1930.

6 Warthin, A. S., and Olsen, R. E.: The Apparent Sequence of Spirochete and Granular Forms in Syphilitic Buboes. Am. J. Syph., Vol. 15, No. 2, page 145, April 1931.

putable proof that such forms exist. By special staining methods [6] they have demonstrated both in syphilitic bubos and syphilitic aortas five different stages of the spirochete. These are (1) the typical large spirochete form; (2) the ring or polymorphous form; (3) the small spirochete; (4) the lymphocytic granules; and (5) the giant cell reaction stage granules. The large spirochete stage is the typical spirochete with which we are all familiar. The small spirochete is one with only two to four tenuous filamentous spirals which requires a special staining technique for its demonstration. The polymorphous or ring forms seem to begin as enlargements, a clubbing, of one end of the spirochetes which then coil upon themselves to form complete or incomplete rings of varying sizes. The lymphocytic granules are fine granules which occur in the lymphocytes of syphilitic lesions. They are quite frequently associated with one or more of the other stages mentioned above. These same granules have been described by Saleeby and Greenbaum.[1] Akin to these lymphocytic granules are similar granules and fine threads which occur in the giant cells of a syphilitic process and which occasionally take on the spiral form of the spirochete. Levaditi has observed similar types in giant cells and has suggested that an ultramicroscopic form may be derived from these small granules.

Warthin's articles are replete with excellent convincing photomicrographs. A schematic chart is shown (p. 436, *Amer. Jour. Syph.*, Vol. xiv No. 4). This work is of vital and far reaching importance. It may be the solution to many of the previously unsolvable problems of syphilis.

H. J. TEMPLETON, Oakland.

Physiologic Limitations of Surgery of the Sympathetic Nervous System.—In 1913, Boeke [1] announced that every muscle fiber has an accessory sympathetic nerve. Recent studies by Wilkinson,[2] Hinsey,[3] and others have failed to confirm this conclusion, and Wilkinson has even gone on to say that no skeletal muscle fiber receives a sympathetic nerve ending. Sympathetic fibers have, however, been traced to the capillaries of muscle, and there is reason to believe that this is the chief destination of the postganglionic fibers passing to muscle.

"It is therefore questionable as to the necessity of the sympathetic system for the maintenance of normal reflex posture or the exaggerated postures of spastic paralysis, and that any influence which it may appear to exert is secondary and due to an obscure effect upon the usual somatic reflex mechanism. Whether this secondary effect justifies ramisection in spastic paralysis is open to question." [4]

Fulton has summed up the indications for sympathetic surgery very tersely and clearly by saying that "apart from Hirschsprung's disease and certain bladder conditions, the only unquestioned physiological indications for ramisection are those relating to conditions of ischemia. Any pathologic process in which healing would be greatly accelerated by an increased blood supply, offers an indication for ramisection, especially if the morbid process threatens the existence of an extremity. Hence in Raynaud's and Buerger's disease and in certain types of arthritis, the improvement following ramisection is certainly attributable to the resulting hyperemia."

Fulton closes his argument by quoting Cannon [5] to the effect that "in the general physiology of the organism the sympathetic system primarily maintains constancy of composition of the fluids of the body. This is done by control over the vegetative functions —heart, blood vessels, sweat glands, etc.—and it is not surprising that recent work has failed to confirm the early idea that the sympathetic also governed certain phases of muscular contraction. There is no doubt that ramisection causes transient modification in postural contraction, but no reflex involving the skeletal musculature is ever destroyed as a result of interference with the sympathetic. Consequently since the alterations in postural reflexes are short lived there is no obvious justification physiologically for ramisection in cases of spastic paralysis."

Royle, in a recent report, states that he has performed the operation of sympathetic ramisection 600 times in approximately 300 different patients with an operative mortality of .5 per cent and claims that 70 per cent of the patients so treated have been more or less benefited. On the other hand, Symonds,[6] and other English surgeons who have followed up the cases operated by Royle in England, conclude that the operation of ramisection appears to have no place of value in the treatment of spastic weakness.

LEO J. ADELSTEIN, Los Angeles.

1 Boeke, J.: Die doppelte (motorische und sympathische) efferente Innervation der quergestreiften Muskelfasern. Anat. Anz., 44:343-356, 1913.

2 Wilkinson, H. J.: The Innervation of Striated Muscle, M. J. Australia, 16, 2:768-793, 1929.

3 Hinsey, J. C.: Some Observations on the Innervation of Skeletal Muscle of the Cat. J. Comp. Neurol., 44:87-195, 1927.

4 Fulton, J. F.: The Physiological Basis of the Surgery of the Sympathetic Nervous System. New England J. Med., 203:555-559 (Sept. 18), 1930.

5 Cannon, W. B.; Newton, H. F.; Bright, E. M.; Menkin, V., and Moore, R. M.: Some Aspects of the Physiology of Animals Surviving Complete Exclusion of Sympathetic Nerve Impulses. Am. J. Physiol. 89:84-107, 1929.

6 Symonds, C. P., et al.: On the Value of Ramisection in Cases of Spastic Weakness. Lancet, 2:127-128 (July 19), 1930.

Planes Carriers of Mosquitoes.—Planes from the tropics will probably carry along with the fire extinguishers, spray guns for killing insects. This innovation is to be expected as a result of studies of mosquito transportation by airplanes made by the United States Public Service. The Service investigated the possibility of insects getting a free plane ride into the United States and bringing yellow fever with them because the disease still occurs in parts of South America. Under normal average conditions about airports, heavy infestation of airplanes would not be likely, but even one infected mosquito of the yellow fever carrier type might be the means of starting an epidemic. However, considering the small number carried by aircraft and the facility with which planes may be freed from mosquitoes, the investigators concluded that, while the danger exists, airplanes can be efficiently treated so as to destroy mosquitoes and thus avoid retardation of air traffic progress. The investigations were made with the coöperation of the Pan-American Airways System.—*Journal of the Missouri Medical Association,* January, 1932.